

## Abstract

The invention relates to a process for determining at least one state variable from a model of an RTP system by means of at least one measurement signal measured on the RTP system – the measurement value – which has a dependency upon the state variable to be determined, and a measurement value forecast by means of the model – the forecast value -, whereby the measurement value and the forecast value respectively comprise components of a constant and a changeable portion, and whereby respectively at least the changeable portion is established, separated by a filter, so as to form a first difference between the changeable portion of the measurement value and the changeable portion of the measurement value forecast by the model, parameter adaptation of at least one model parameter by recirculation of the first difference in the model with the aim of adapting the model behavior to variable system parameters, forming of a second difference from the measurement value and the forecast value or from the measurement value adjusted by the changeable portion and the adjusted forecast value, state correction of a state of the model system by recirculation of the second difference in the model, with the aim of bringing the state of the model system into correspondence with that of the real system, and measurement of the at least one state variable on the model.